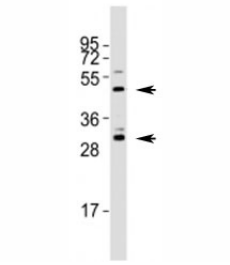
Shh Antibody / Sonic Hedgehog (F53264)

Catalog No.	Formulation	Size
F53264-0.4ML	In 1X PBS, pH 7.4, with 0.09% sodium azide	0.4 ml
F53264-0.08ML	In 1X PBS, pH 7.4, with 0.09% sodium azide	0.08 ml

Bulk quote request

Availability	1-3 business days
Species Reactivity	Mouse
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit Ig
Purity	Antigen affinity
UniProt	Q15465
Applications	Western blot: 1:1000 (1)
Limitations	This Shh antibody is available for research use only.



Western blot testing of Shh antibody at 1:1000 dilution + mouse stomach lysate; Predicted molecular weight: 45/27/19 kDa (1)

Description

SHH antibody recognizes Sonic Hedgehog (SHH), a signaling ligand that plays a pivotal role in coordinating intercellular communication during embryonic development and tissue organization. SHH belongs to the Hedgehog family of proteins and is synthesized as an inactive precursor that undergoes self-cleavage to generate a biologically active N-terminal fragment. This processed ligand is subsequently modified by lipid attachment, a feature that influences its membrane association, spatial distribution, and signaling potency. SHH functions primarily in the extracellular environment, where it acts on neighboring cells to regulate developmental patterning.

At the functional level, SHH serves as the initiating signal of the Hedgehog pathway. Binding of SHH to the Patched receptor relieves repression of Smoothened, allowing activation of downstream signaling events that culminate in GLI-dependent transcriptional regulation. Through this pathway, SHH controls cell proliferation, differentiation, and positional identity in developing tissues. Its graded expression enables cells to interpret positional cues, making SHH a classic example of a morphogen. An SHH antibody supports studies focused on ligand-driven signaling and spatial regulation of developmental pathways.

SHH activity is not limited to early development. In postnatal and adult tissues, regulated Hedgehog signaling contributes to maintenance of progenitor cell populations and tissue repair processes. Tight control of SHH expression is therefore essential, as inappropriate pathway activation can disrupt normal cellular behavior. Monitoring SHH levels provides insight into how Hedgehog signaling is engaged or restrained under physiological and experimental conditions.

From a disease-relevance perspective, aberrant SHH signaling has been linked to developmental abnormalities and pathological cell growth. Persistent or ectopic SHH expression can drive inappropriate pathway activation, underscoring the importance of SHH regulation in maintaining tissue homeostasis. As a central ligand in this pathway, SHH is frequently examined in studies investigating signaling imbalance and disease-associated pathway activation.

At the molecular level, SHH is encoded by the SHH gene and produces a precursor protein that is post-translationally processed to yield the active signaling domain. Its biological activity depends on precise regulation of synthesis, processing, and secretion. An SHH antibody supports research applications aimed at understanding Hedgehog ligand biology, pathway regulation, and developmental signaling mechanisms, with NSJ Bioreagents providing reagents intended for research use.

Application Notes

Titration of the Shh antibody may be required due to differences in protocols and secondary/substrate sensitivity.

1. 1. The 45 kDa precursor protein autocleaves into 27 kDa amino and 19 kDa carboxy fragments.

Immunogen

This Shh antibody was produced from a rabbit immunized with a KLH conjugated synthetic peptide between 368-401 amino acids from the C-terminal region of human Sonic hedgehog.

Storage

Aliquot the Shh antibody and store frozen at -20oC or colder. Avoid repeated freeze-thaw cycles.

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